UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,779	11/28/2001	Oscar P. Pinto	219.40421X00	8352

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ROB D. ANDERSON	CHANNAVAJJALA, SRIRAMA T

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/994,779	PINTO ET AL.
	Examiner	Art Unit	
	Srirama Channavajjala	2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 November 2001</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-23</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-23</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Drawings

1.   The drawings filed on 11/28/2001 are <u>objected</u> to by the Draftsperson under

37 CFR 1.84 or 1.152, [see PTO-948], formal drawings are required in response to this

office action. These drawings are acceptable for examination purpose only.

Claim Objections

2.   Claim 7,15, 23 objected to because of the following informalities:

In Claim 7,15,23, "infiniBand™ used. Appropriate correction is required.

Specification

The abstract of the disclosure is objected to because Abstract is less than

50 words. See MPEP § 608.01

Applicant is reminded of the proper language and format for an abstract of the

disclosure.

The abstract should be in narrative form and generally limited to a single

paragraph on a **separate sheet** within the ***range of 50 to 150 words***. It is important

that the abstract not exceed 150 words in length since the space provided for the

abstract on the computer tape used by the printer is limited. The form and legal

phraseology often used in patent claims, such as "means" and "said," should be

avoided. The abstract should describe the disclosure sufficiently to assist readers in

deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information

given in the title. It should avoid using phrases which can be implied, such as, "The

disclosure concerns," "The disclosure defined by this invention," "The disclosure

describes," etc.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the
United States before the invention thereof by the applicant for patent, or on an international application
by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3.   Claims 1-4,17- 20 are rejected under 35 U.S.C. 102(e) as being anticipated by

Buhrgard et al., [hereafter . Buhrgard], US Patent No. 6671255

4.   As to Claim 1, 17, Buhrgard teaches a system which including 'managing an

incoming data message at a host node in a switched fabric' [see Abstract]; 'determining

whether if there are pre-post buffers specified for a client upon registration by the client'

[col 4, line 21-38], 'if there are pre-post receive buffers specified for the client, posting

client specified receive buffers at management queue pairs (QPs) to receive the

incoming data message' [col 5, line 16-31, fig 3], Buhrgard specifically teaches buffer

structure where each level there are buffer groups and designated with specific

numbers as detailed in col 5, line 21-31 that corresponds to buffers at management

queue pairs; 'if no pre-post receive buffers are specified for the client, posting a default

number of receive buffers at the management queue pairs (QPs) to receive the

incoming data message' [col 5, line 32-42].

5.   As to Claim 2, 18, Buhrgard disclosed 'continuing to monitor and receive

incoming data messages, and determining if the number of posted receive buffers falls

below a threshold value' [col 4, line 45-49, col 5, line 8-16], Buhrgard specifically

teaches a threshold value is defined to compare the buffer levels , particularly lower

threshold values as detailed in col 5, line 12-16; 'if the number of posted receive buffers

falls below the threshold value, osting additional receive buffers to receive the inc,ing

data messages' [col 6, line 63-67, col 7, line 1-7].

6.   As to Claim 3, 19, Buhrgard disclosed 'if the number of posted receive buffers

exceeds an upper threshold value, removing a designated number of receive buffers

posted to receive the additional incoming data messages so as to conserve resources'

[col 9, line 48-62].

7.   As to Claim 4, 20, Buhrgard disclosed 'monitoring a receive buffer usage of the

client based on the number of incoming data messages received for the client are

received' [col 4, line 50-61], 'increasing the number of receive buffers posted on behalf

of the client to receive the number of incoming data messages intended for the client'

[col 5, line 32-42].

8.   Claims 8-16 are rejected under 35 U.S.C. 102(e) as being anticipated by

Craddock et al.,[hereafter Craddock], US Pub No.2003/0005039

9.   As to Claim 8, Craddock teaches a system which including 'at least one channel

adapter (CA) including one or more ports to support data transfers via subnet [see fig 1,

fig 6,page 3, col 1, 0033, col 2, 0036], channel adapters corresponds to Craddock's fig 1

where channel adapters take the form of host channel adapters as detailed in page 3,

col 2, 0036; 'an access module including a general services agent (GSA) and a subnet

management agent (SMA) [see fig 1] to enable one or more entities to send and receive

data messages of management services on the host system via the subnet [page 3, col

2, 0036-0037], including to determine an optimal number of receive buffers to post at

management queue pairs (QPs) so as to receive an incoming data message from the

subnet' [see fig 3, page 3, col 2, 0038-0039], Craddock specifically teaches host

channel adapter supports thousands of queue pairs [see page 4, col 1 0039].

10.   As to Claim 9, Craddock teaches a system which including 'determine whether if

there are pre-post receive buffers specified for a client upon registration by the client'

[page 4, col 2, 0051]; 'if there are pre-post receive buffers specified for the client, post

client specified receive buffers at the management queue pairs (QPs) to receive the

incoming data message' [page 3, col 2, 0038]; 'if no pre-post receive buffers are

specified for the client, post a default number of receive buffers at the management

queue pairs (QPs) to receive the incoming data message' [page 4, col 1, 0043].

11.   As to Claim 10, Craddock teaches a system which including 'monitor and receive

incoming data messages, and determine if the number of posted receive buffers falls

below a threshold value' [page 4, col 1, 0044]; 'if the number of posted receive buffers

falls below the threshold value, post additional receive buffers to receive the incoming

data messages' [page 4, col 2, 0047].

12.   As to Claim 11, Craddock teaches 'wherein one of the general services agent

(GSA) and the subnet management agent (SMA) is further configured to remove a

designated number of receive buffers posted to receive the additional incoming data

messages so as to conserve resources, if the number of posted receive buffers exceeds

an upper threshold value' [page 4, col 2, 0048-0049].

13.   As to Claim 12, Craddock teaches a system which including 'general service

agent and the subnet management is further configured to monitor a receive buffer

usage of the client based on the number of incoming data messages received for the

client are received, and increases the number of receive buffers posted on behalf of the

client to receive the number of incoming data messages intended for the client' [see

page 4, col 2, 0048-0049, page 5, col 1, 0056].

14.   As to Claim 13, Craddock teaches a system 'the default value of number of

receive buffers is set by a fabric administrator based on operating conditions of the

subnet, including a subnet size and a traffic pattern' [page 6, col 2, 0074].

15.   As to Claim 14, Craddock teaches a system which including 'threshold value is

set by a fabric administrator based on operating conditions of the subnet, including a

number of local clients registered at the host system in the subnet' [page 7, col 1, 0075].

16.   As to Claim 15, Craddock teaches 'management queue pairs (QP) [see page 3,

col 2, 0038] including QPO managed by an agent of subnet services, known as subnet

management agent (SMA) [see page 3, col 2, 0038], subnet management agent

corresponds to Craddock's subnet manager agent (SMA), fig 3, element 336; 'QP1

managed by the agent of general services known as General Services Agent (GSA) in

accordance with the "InfiniBand architecture specification" [page 6, col 2, 0070].

17.   As to Claim 16, Craddock teaches a system which including 'management

services include a subnet administration service which provides data path information to

reach fabric-attached devices [see fig 1, fig 6]; 'a communication management service

which provides the means to set up and manage communications between queue pairs

(QP)' [page 3, col 2, 0038]; 'a performance management service which specifies a set

of facilities for examining various performance characteristics of the subnet' [page 3, col

2, 0036]; 'a device management service which specifies the means for determining the

type and location of various types of fabric-attached devices' [page 3, col 2, 0037]; 'a

device configuration service which assigns fabric-attached devices to the host ystem'

[see fig 1, fig 3]; 'a baseboard management service which allows management of the

fabric-attached devices and a network protocol service which specifies mechanisms to

support transport of simple network management protocol "SNMP" operations through

subnet' [page 3, col 1, 0031].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

18.   Claims 5-7, 21-23, rejected under 35 U.S.C. 103(a) as being unpatentable over

Buhrgard et al., [hereafter. Buhrgard], US Patent No. 6671255 as applied to claims 1,

above, and further in view of Craddock et al., [hereafter Craddock], US Pub

No.2003/0005039

19.   As to Claim 5, 21,Buhrgard teaches 'default value of number of receive number

of buffers in a packet switch [see col 5, line 32-42]. It is however, noted that Buhrgard

does not specifically teach 'operating conditions of the switched fabric including a fabric

size and a traffic pattern'. On the other hand, Craddock teaches 'operating conditions of the switched fabric including a fabric size and a traffic pattern' [page 2, col 1, 0023, fig 1], Craddock specifically teaches switched communications fabric in fig 1, element 100, further switched fabric supports multiple ports and paths that increases bandwidth for data transfer that corresponds to fabric size and traffic pattern.

It would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Craddock et al., into packet switched network of Buhragard et al. because both Buhragard and Craddock are directed to packet switched networks, more specifically Buhrgard is directed to packet switched exchange using network and organizing traffic [see fig 1, abstract], while Craddock is directed to distributed computing system having nodes, switches, routers and links for interconnecting packets and organizing traffic [see Abstract, fig 7] and are from same field of endeavor.

One of the ordinary skill in the art at the time of applicant's invention would have been motivated to incorporate the teachings of Craddock into packet switched network of Buhragard because that would have allowed users of Buhragard to not only control network operating conditions, packet size(s) but also effectively organizing traffic pattern by means of detecting specific switch associated with ports, assigning unique identifier and like as suggested by Craddock [see page 1, col 2, 0008].

20.   As to Claim 6, 22,Craddock teaches 'threshold value is set by a fabric administrator based on operating conditions of the switched fabric, including a number of local clients registered at the host node in the switched fabric [page 2, col 1, 0023].

21.   As to Claim 7, 23 Craddock teaches 'management queue pairs (QP) [see page 3, col 2, 0038] including QPO managed by an agent of subnet services, known as subnet management agent (SMA) [see page 3, col 2, 0038], subnet management agent corresponds to Craddock's subnet manager agent (SMA), fig 3, element 336; 'QP1 managed by the agent of general services known as General Services Agent (GSA) in accordance with the "InfiniBand architecture specification" [page 6, col 2, 0070].

Conclusion

The prior art made of record

a.   US Patent No.   6671255

b.   US Pub No.   2003/0005039

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is (703) 308-8538. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time. The TC2100's Customer Service number is (703) 306-5631.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax phone numbers for the organization where the application or proceeding is assigned are as follows:

703/872-9306   **(Offical Communications)**

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-9600.

sc *W̸*
Patent Examiner.
August 17, 2004.